

Durham 16254

NH 108-US 4 Westbound Ramps Safety Improvement Project

July 6, 2020

Agenda

- Introductions
- Project Status & Schedule
- Project Overview
- Town Coordination
- Schedule Recap
- Questions
- Closing & Contact Information

Welcome and Introductions

- Keith Cota, PE, Chief Project Manager
- Jason Ayotte, PE, Project Engineer
- Team Members
 - Marc Laurin, Senior Environmental Manager
 - Charles Blackman, PE, Bureau of Transportation Systems and Maintenance Operations (TSMO)
 - Julie Mathews, PE, Bureau of Traffic
 - Roger Appleton, PE, Bureau of Highway Maintenance District 6
 - Tobey Reynolds, PE, Bureau of Highway Design
 - Stephanie Micucci, PE, Bureau of Highway Design

Durham 16254



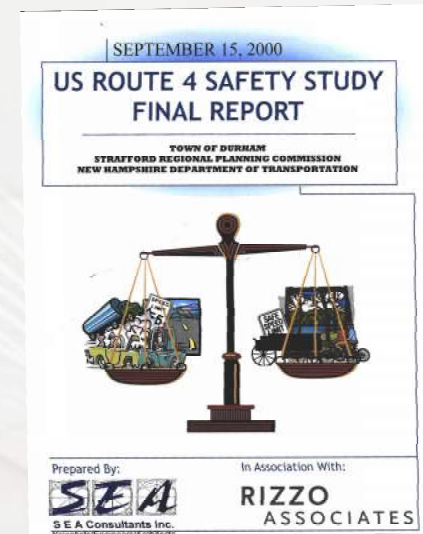
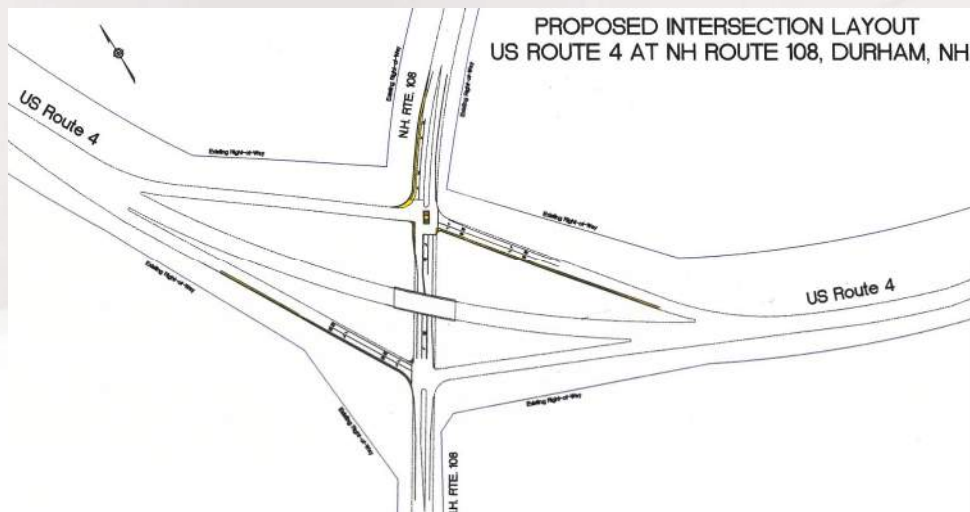
Project Status & Schedule

- Design 85% Complete (Final Design Phase)
- Finalizing Environmental Review & Coordination
- ~\$780,000 Construction Estimate
- Outstanding
 - Understand Sidewalk Status and Location
 - Construction Documents & Final Town Coordination

Town Council Meeting	July 6, 2020
Final Design Complete	July 14, 2020
NHDOT Approvals & Final Construction Documents Complete	August, 2020
Advertise Project for Construction	August 25, 2020
Contractor Bids Due	September, 2020
Anticipated Construction Begins	March, 2021
Anticipated Construction Complete	November, 2021

Project Overview – History & Need

- *US Route 4 Safety Study:*
 - Project first identified and entered Ten Year Plan through Strafford Regional Planning Commission
 - Study found deficiencies for NH 108 Interchange EB Off Ramp (Speed) & WB Off Ramp (Delay)
 - Study proposed Signalized Intersection for WB Ramps & Roundabout Alternatives



Project Overview – History & Need

- Project was included in the NH Ten Year Plan 2003-2012 as a stand-alone project
- Preliminary Design & Alternatives (2015-2018)
 - Traffic Study - Confirmed 2000 Study results
 - Traffic Congestion & Delay for US 4 WB Off Ramp
 - Signal Warrants not met for EB Ramps Intersection
 - Crash Analysis – Confirmed Inadequate Gaps taken by US 4 WB Off Traffic
 - Evaluated Roundabout & Rock Cut Alternatives
- Final Design (2018-Present)
 - Selected Alternative ➡ WB Ramps Signal Option
 - Shifted Dynamic Message Sign from Bunker Creek D-B Project



Project Overview – History & Need

- Riverwoods Durham Development Driveway & Excavation Permits (2018-2019)
 - Developer review w/ District 6 & Traffic
 - Roadway widening, Utilities Extension
 - Sidewalk Proposed but not included
- District 6 Work (2019)
 - Coordination w/ Developer to install conduits for Signal Project
 - Curb & Panel Construction to accommodate EB Ramps Right Turn & Sidewalk Panel



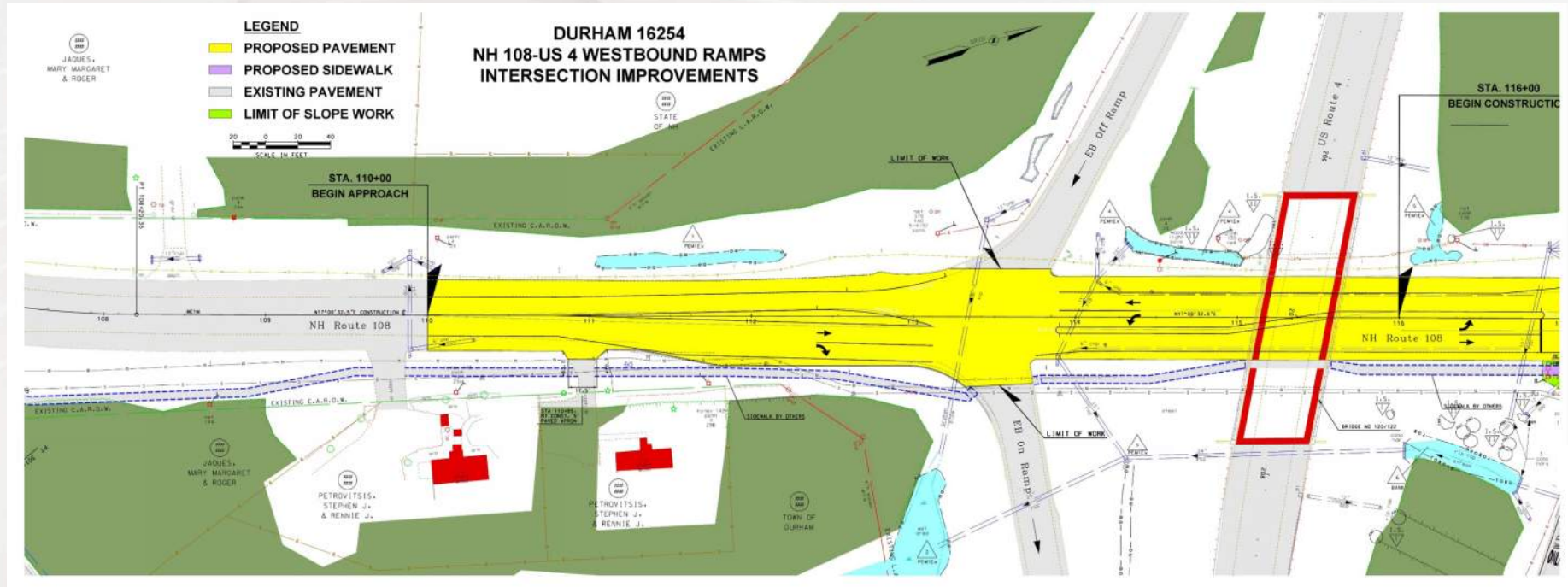
Project Overview – NH Route 108

- Roadway & Traffic
 - Signals & Conduit
 - Wearing Course Only
 - Pavement Marking & Signing*
- *Includes Bicycle Markings & Signing

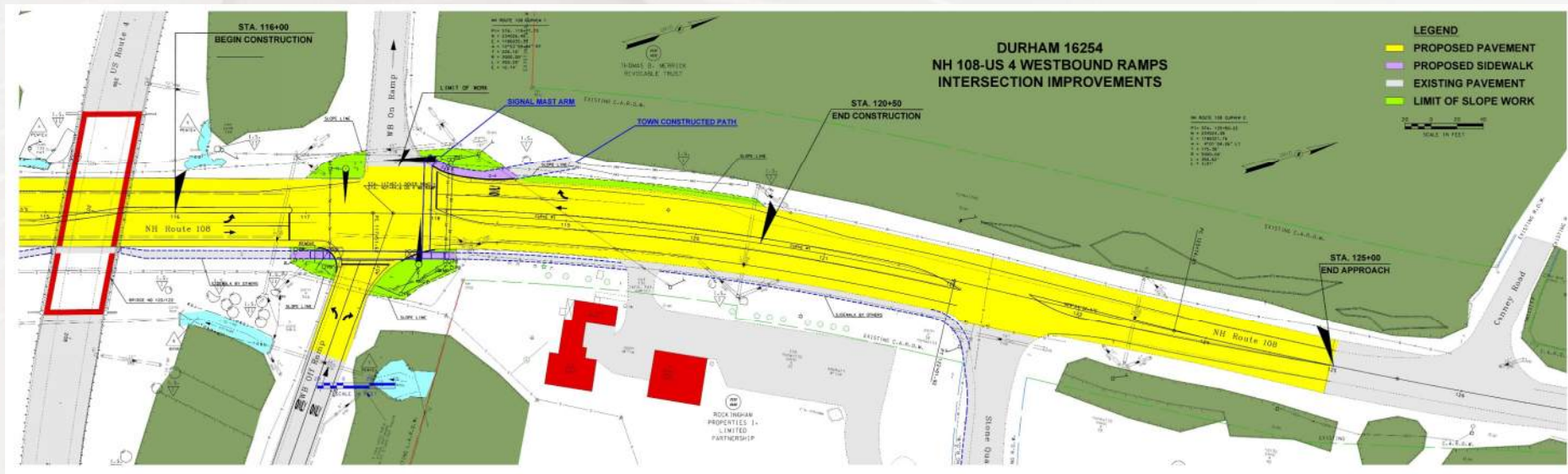


	Proposed (2041)
Traffic Volume	NH 108 AADT: 14,840 (2021)/18,110 (2041) Trucks 5.7% US 4 WB Off Ramp AADT: 3,930 (2021)/4,810 (2041)
Posted Speed	35 mph
Design Speed	40 mph
Lane Width	NH 108 – 11-12 ft. travel lanes & 10 ft. auxiliary lanes US 4 – no change US 4 WB Ramp – no change
Pavement Treatment	NH 108 - 1 ½" High-Strength Wearing Course Only
Shoulder Width	NH 108 - 2-10 feet
Sidewalk Location and Width	TBD
ROW Width	Varies (160'+) & no change.
ROW Impacts	None
Construction Cost	Approx. \$630,000

Project Overview – NH Route 108



Project Overview – NH Route 108



Project Overview – US Route 4 WB Off Ramp

- Roadway & Traffic
 - Rock Scaling & Clearing
 - Pavement Marking & Signing Only
 - Pavement Inlay at NH 108 intersection only
 - Construction Estimate ~\$55,000



US 4 WB Ramp – Looking East (Google Earth)

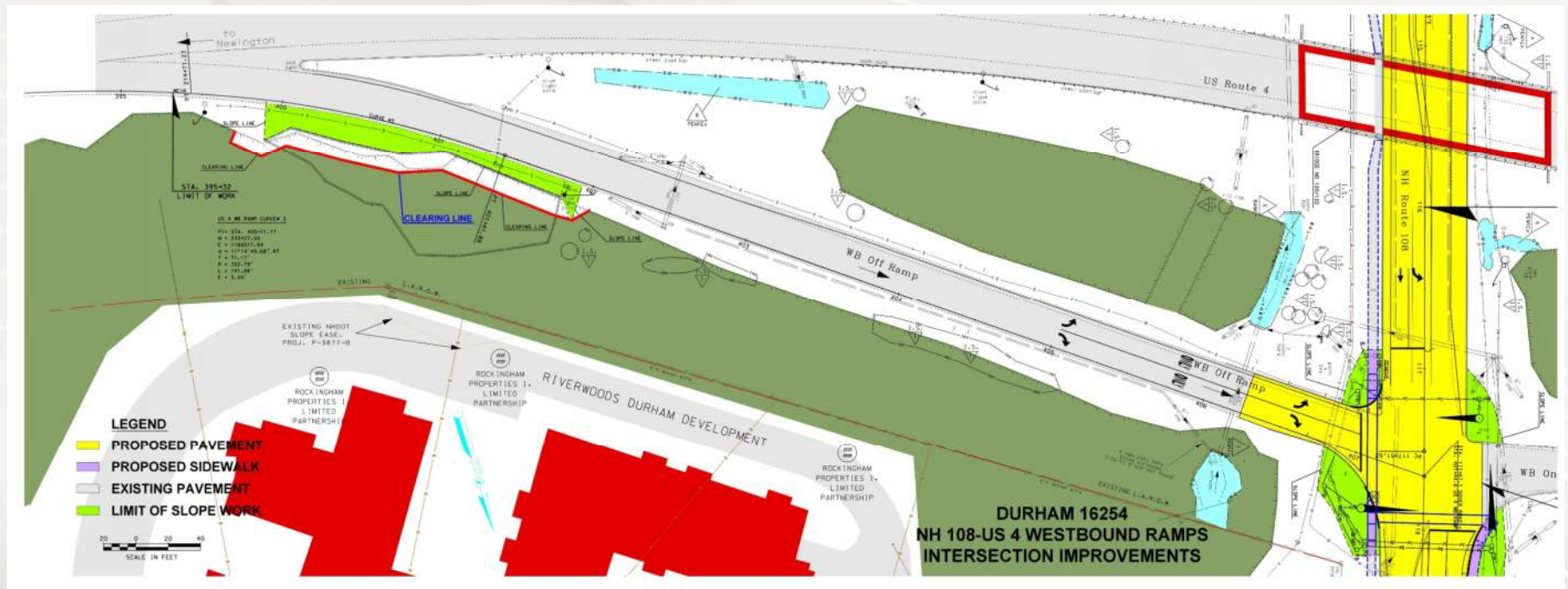


Rock Face Clearing Before Scaling –(Alton NH 11)



Machine Rock Scaling (Alton NH 11)

Project Overview – US Route 4 Westbound Off Ramp



Project Overview – Signal & Lighting Design

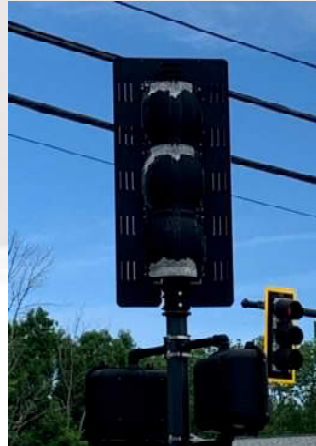


- Signal Mast Arm Design offset allows sidewalk
- Intersection Lighting adjustments required
- Standardized design for Safety, Maintenance, and Cost



Project Overview – Signal & Lighting Design

- Powder Coating and Enamel Painted signal mast arms and lighting costs 1.5-2x
- Galvanized steel preferred for long-term maintenance and cost



Project Overview – DMS

- I-95 & Spaulding Turnpike Master Plan
- US 4 Dynamic Message Sign (DMS) assists with Seabrook Evacuation Route
- Typical Use & Messaging (2-3 days)
 - Accident Response
 - Construction Management
 - Travel Time Advisory
 - Winter Weather Advisory
 - Amber Alerts (Missing child)
- Proposed Sign Size is 13' x 7' (max)
- Amber LEDs w/ Specific Messages
- Construction Estimate ~\$100,000



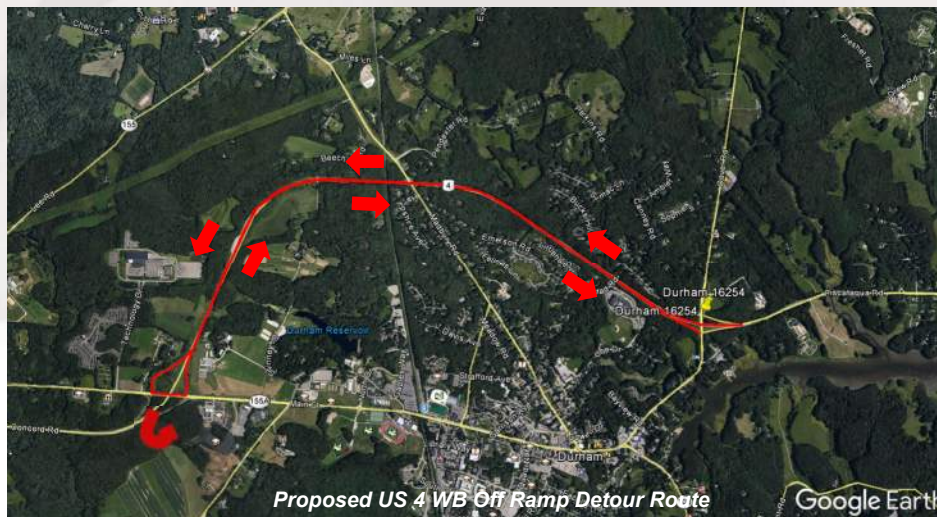
I-393, Concord Dynamic Message Sign



US 4, Lee Dynamic Message Sign (Google Earth)

Project Overview – Traffic Control

- NH Route 108 – Signal and Pavement
 - Proposed Daily Lane & Shoulder Closures
 - Maintain Traffic in Both Directions
- US 4 WB Off Ramp – Rock Scaling
 - Proposed Daily Closure w/ Detour to 155A & reverse direction
- US 4 WB Dynamic Message Sign
 - Requires Shoulder Closures Only for Installation

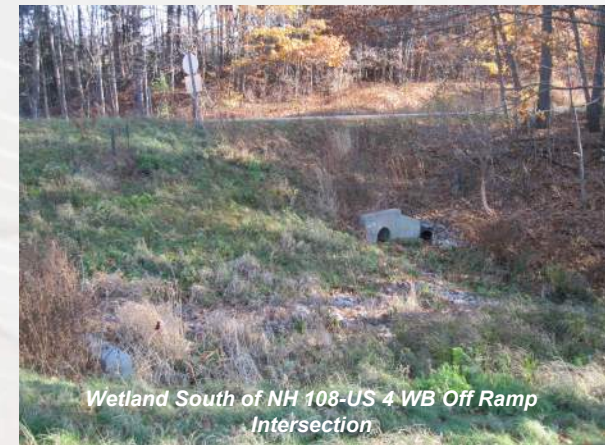


Project Overview – Riverwoods Durham Sidewalk Coordination

- 16254 Proposed Signal Design to Accommodate a Future Sidewalk
- NHDOT District 6 requested in May to review Potential Sidewalk
 - Requires Approval by Bureau of Traffic for Uncontrolled EB Ramps Crossing and Lighting
 - Requires District 6 Excavation Permit
 - Municipal Sidewalk Agreement w/ Town
 - Needs to comply with MS4 Requirements

Project Overview – Environmental Coordination

- National Environmental Policy Act (NEPA) document approval expected in July
- No Permits Required
 - **No Wetland Impacts**
 - No Mitigation Required
 - No Contamination Concerns Identified
- Endangered Species: Northern Long Eared Bat (NLEB)
- Invasive Plant Species: Type I & Type II Species exist within project
- Limited Reuse Soils (LRS) - LRS All soil within NH ROW, and pulverized or ground asphaltic materials, are considered LRS
- Stormwater Treatment (MS4): None required under DOT project



Project Overview – Environmental Coordination

- Potentially Historic Properties: 56 Dover Road (NH 108)
- No historic or archeological impacts - all project impacts are within previously disturbed areas within NHDOT ROW
- **No concerns from NH Division of Historic Resources on archeology or above-ground inventory.** Letter received in April, 2020.



56 Dover Road



NH 108 Looking North – All Impacts within Existing Roadway



US 4 Looking East – DMS placed in existing fill slope

Project Overview – Environmental Special Considerations

- Invasive Plant Species
 - Avoid any impacts to Type II Plant Species
 - Type I Plant Species may be removed within clearing restrictions
- Limited Reuse Soils (LRS) – All soil to remain in NHDOT ROW
 - A Soil Management Plan (SMP) will be required from the Contractor
- Clearing restricted to between September 1st and April 14th to avoid impacts to Northern Long Eared Bat (NLEB) species
- New sidewalk proposed by other may need to address MS4 requirements

Town Coordination Required

- Municipal Work Zone Agreement (MWZA)
- Sidewalk Maintenance Agreement
 - If Constructed by Riverwoods Durham
 - Includes Bicycle Pavement Marking and Signs

Schedule

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Anticipated Construction Complete	November, 2021

Questions?



Contact Information

- Matt Lampron, PE – NHDOT Project Manager
 - 603-271-2296
 - Matthew.Lampron@dot.nh.gov
- Project Website
 - www.nh.gov/dot/projects/durham16254/index.htm